LSR Convention, 2014
Mike Barrett

Modeling Long Bridges, Part 1

a. Steel Arch Bridge
b. Fixed-Fixed Steel Beam Inside Shell

Modeling Long Bridges, Part 2

Building Howe Thru-Truss Bridges
of any Size or Scale

15

477

480

485

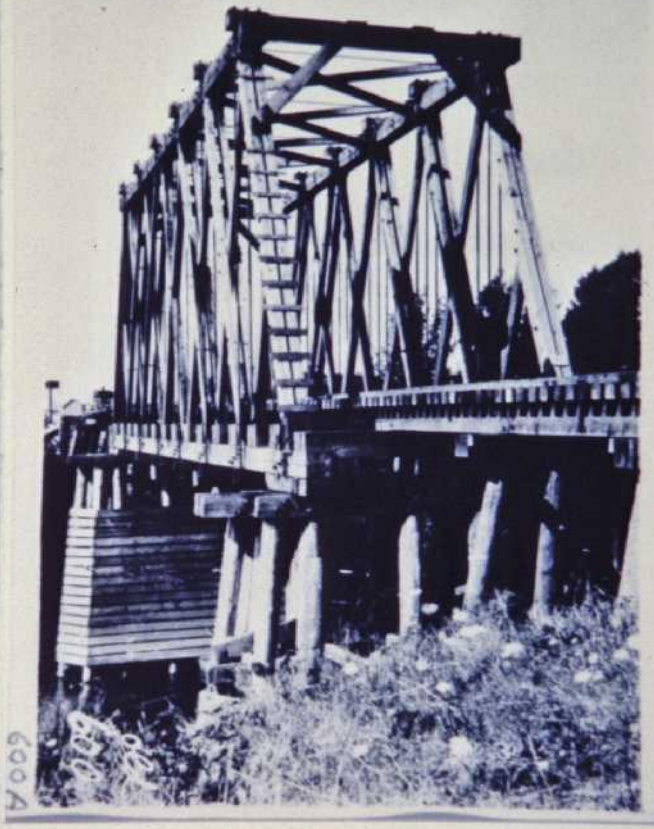
SHOREHAM BRIDGE

This 108' Howe truss railroad bridge is one of only two covered railroad bridges left in Vermont. It was built in 1897 on the 15.6 mile Addison Branch connecting the Rutland Railroad at Leicester Junction with the Delaware and Hudson at Ticonderoga, New York, crossing Lake Champlain on a floating bridge at Larrabee's Point. This bridge was last used for rail traffic in 1951.

VERMONT DIVISION FOR HISTORIC PRESERVATION 1990

598A MILL CREEK
NEAR CANBY, OR
82' SPAN

600A WESTSIDE BRANCH
MARYS RIVER
(NEAR CORVALLIS, OR)



DECK BRIDGES	Span	Panel	Inside Chord	Inside Cl	Top Chord	Bot. Chord
RGS *						
Bridge 45A (original)	108'	10'-3"	23'-3.75"	13'-3"	2-7x12, 2-8x12	2-7x15, 2-8x15
RGS						
DRG Design, 1890	202'	12'-3/8"	23'	12.5'	4-8x14	4-8x16
THROUGH TRUSS BRIDGES						
Fox River - HO Scale						
Midwest Products	97'	12'-6"	26'	15'-6"	4-8x14	4-8x16
DRG/RGS *	128'	10'-2"	21.872	14	2-6x12, 2-7x12	2-6x14, 2-7x14
64A-Burns Canyon						
CMStp&P	147'	10'-11"	25'	14'-6"	4-8x12	4-8x15
1891Natl Trans Mus.						
Northern Pacific	150'	11'-1"	28'-4"	14'-6"	4-7.5 x 14	4-7.5 x 18
Kalmbach, p.40						

NMRA Standards (Allow .5212" for floor beams, stringers, and track.)

HOn3	20.77'	12.23'
HOn3-Large	20.77'	14.95'
Std Ga, HO	25.53'	14.95'

* Narrow Gauge

References: Carsten's Bridge and Trestle Handbook, Paul Mallory
Kalmbach's Model Railroad Bridges and Trestles

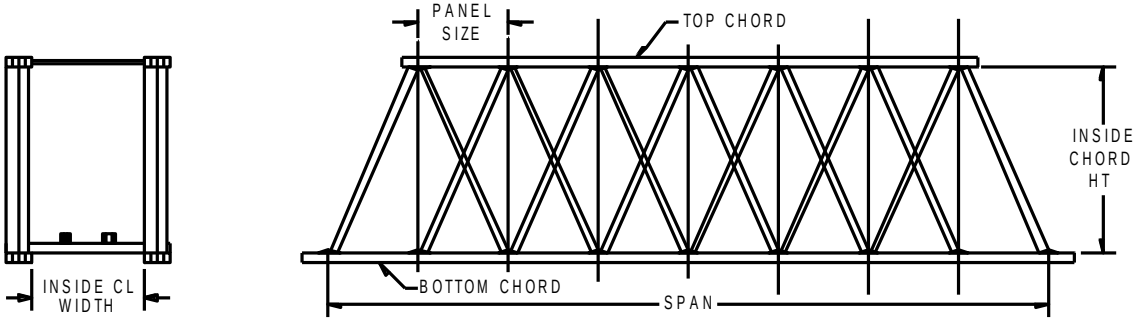


Figure 3 – Typical timber Howe truss bridges.

FOX RIVER THRU-TRUSS BRIDGE - BUILDING IT IN OTHER SCALES

	IN THE KIT	O Scale Sizes			
	HO Scale Sizes	**Narrow Ga.**	**Standard Ga.**	**S Scale**	**N Scale**
Top Chord	3/32 X 5/32	5/32 x 1/4	3/16 x 5/16	1/8 x 7/32	1/16 x 3/32
Bot Chord	3/32 X 3/16	5/32 x 5/16	3/16 x 3/8	1/8 x 1/4	1/16 x 1/8
End Post	5/32 X 3/16	1/4 x 5/16	5/16 x 3/8	7/32 x 1/4	3/32 x 1/8
Diagonal Brace	1/8 x 1/8	.2083 x .2083 *	1/4 x 1/4	5/32 x 5/32	1/16 x 1/16
Counter Brace	3/32 X 3/32	5/32 x 5/32	3/16 x 3/16	1/8 x 1/8	1/16 x 1/16
Portal Cap Top	1/8 x 3/16	3/16 x 5/16	3/16 x 5/16	5/32 x 1/4	1/16 x 3/32
Portal Brace	1/16 x 3/32	3/32 x 5/32	3/32 x 5/32	1/16 x 1/8	1/32 x 1/16
Styrene U-Channel	1/8	3/16"	1/4"	5/32"	.080"
Struts	1/16 x 1/16	1/8 x 1/8	1/8 x 1/8	3/32 X 3/32	1/32 x 1/32
Vertical Tension Rods	.025 dia music wire	.047 dia	.047 dia	.032 dia	.015" dia
Tension Plate	.030 x .125 Styrene	N/A	N/A	N/A	N/A
Tension Bolt	1/4" Heavy Duty Staple	N/A	N/A	N/A	N/A
Lg NBW (Grandt Line)	5093	16	16	5123	5066
Sm NBW (Grandt Line)	5066	5093	5093	5066	N/A

* O Scale 10 x 10 or 7/32" x 7/32"

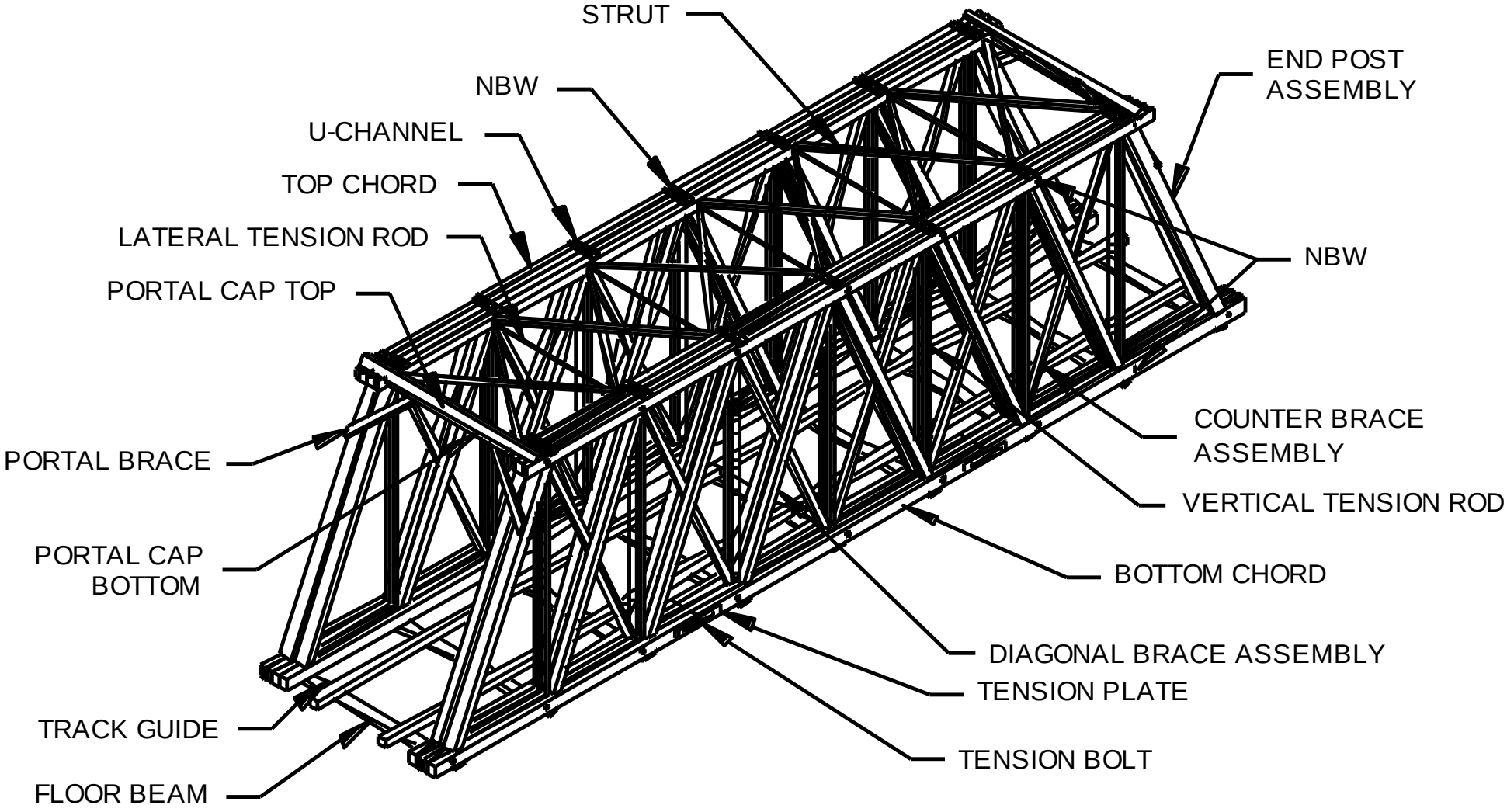
FOX RIVER PROTOTYPE FLOOR MATERIALS - HO

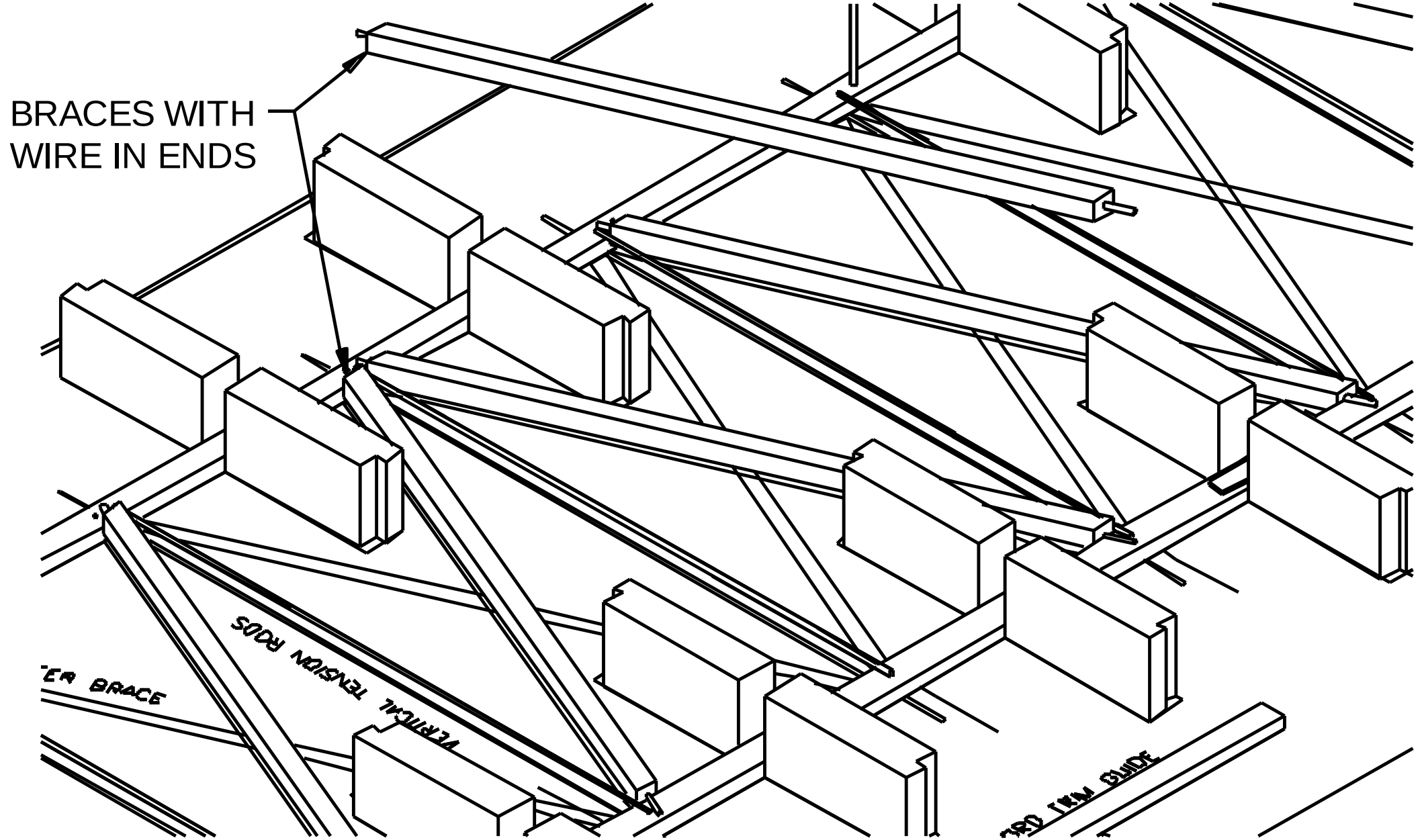
MUSIC WIRE	.025" DIA	.047 dia	.047 dia	.032 dia	.015" dia
SPACER	.0208" x .1041"	.0416" x .125"	.0416" x .125"	1/32 x 1/8	.0208" x .1041
STRINGERS	3/32" x 1/8"	5/32 x 7/32	5/32 x 7/32	1/8 x 5/32	1/16 x 1/16
Lg NBW (Grandt Line)	5093	16	16	5123	5066
Sm NBW (Grandt Line)	5066	5093	5093	5066	N/A
FLOOR BEAMS	1/8" x 1/4"	7/32 x 7/16	7/32 x 7/16	5/32 x 5/16	1/16 x 1/8
STRUTS	1/16" x 1/16"	1/8 x 1/8	1/8 x 1/8	3/32 X 3/32	1/32 x 1/32
Styrene U-Channel	Midwest P/N M-724	3/16"	1/4"	5/32"	.080"

FOX RIVER LAYOUT PARAMETERS

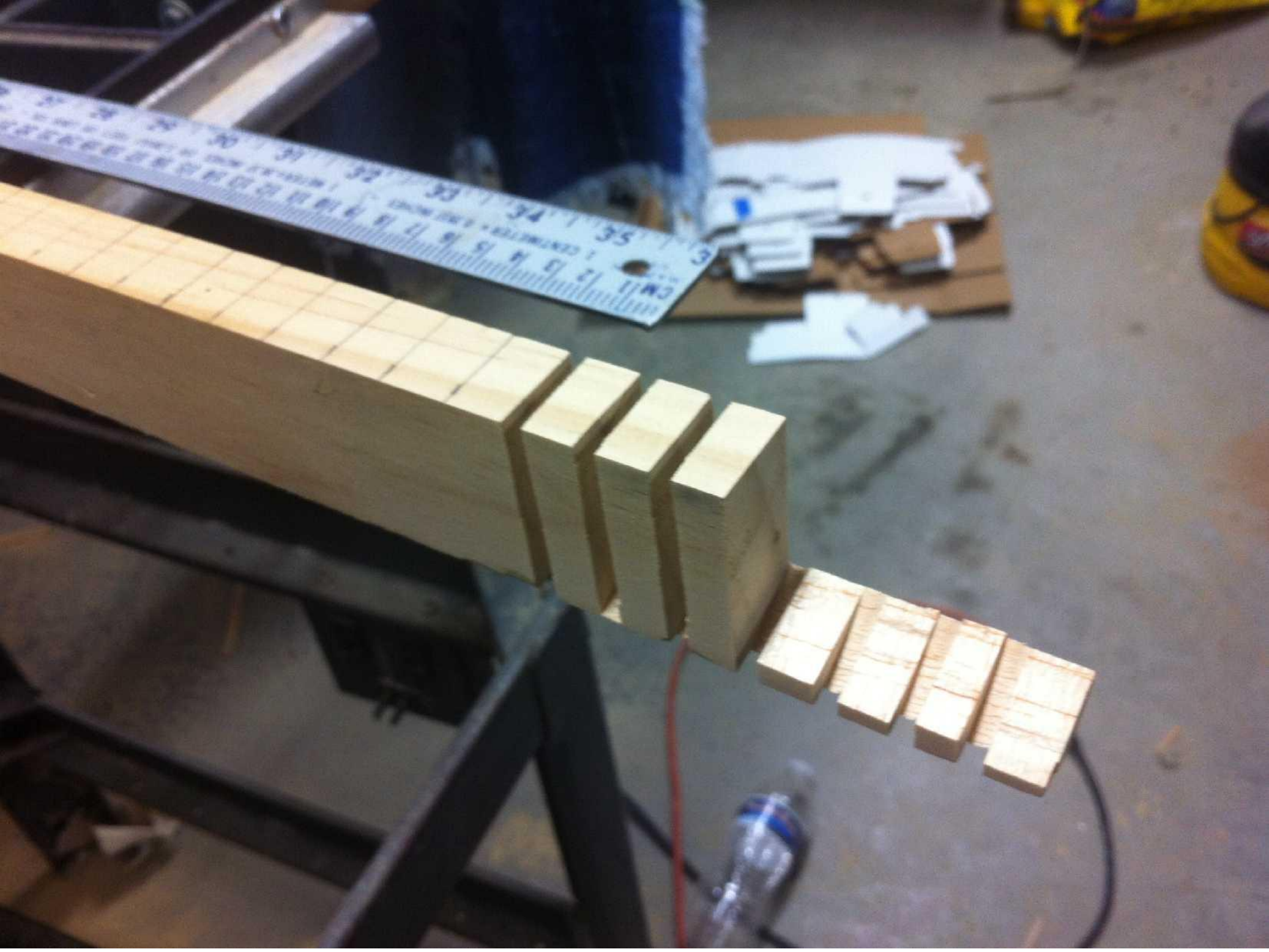
Panel size (inches)	1.724	2.547	3.125	2.344	0.938
Inside chord ht. (inches)	3.586	5.155	6.500	4.875	1.950

Bridge Assembly Drawing




BRACES WITH
WIRE IN ENDS

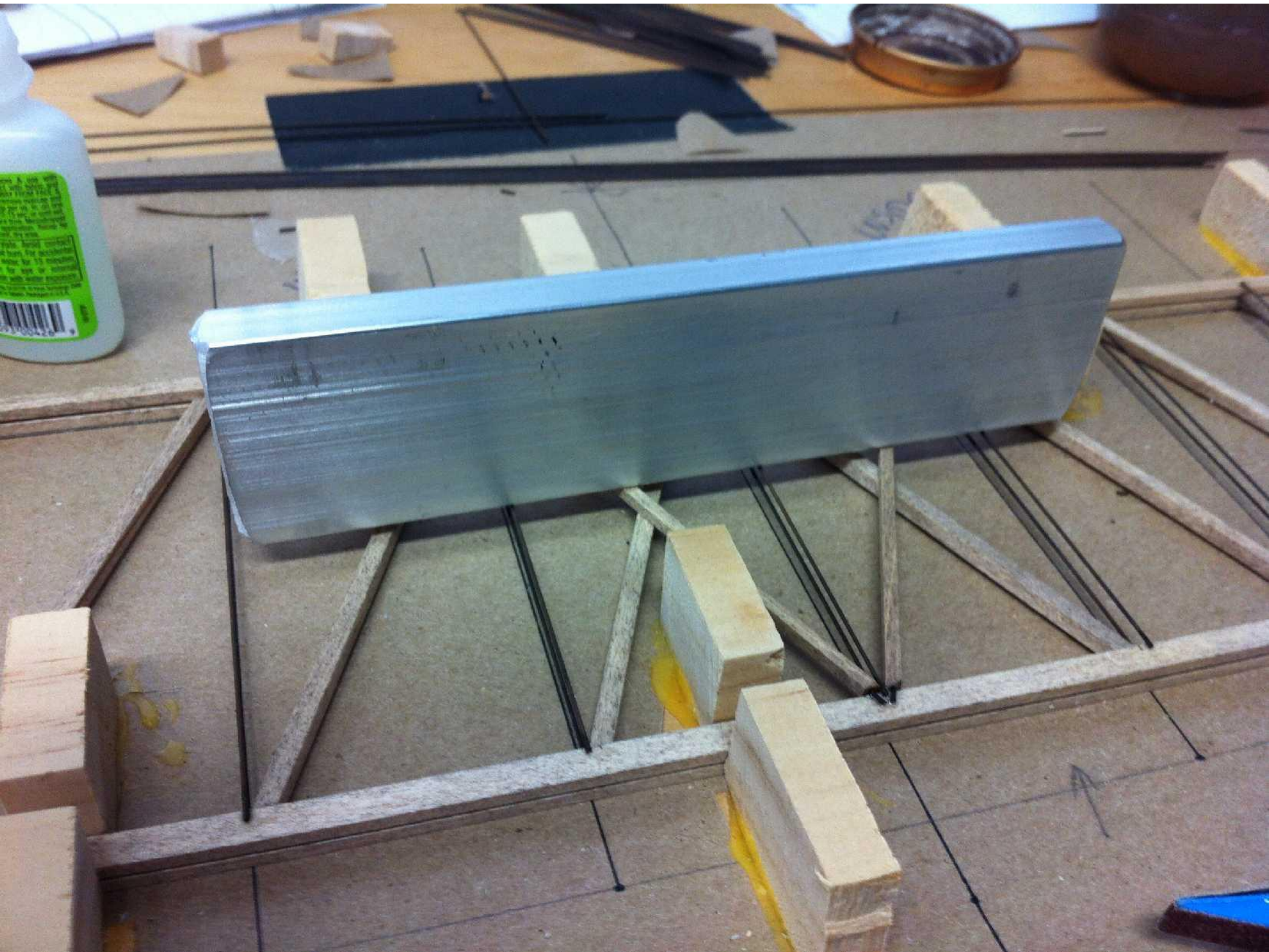
PowerLock
12'

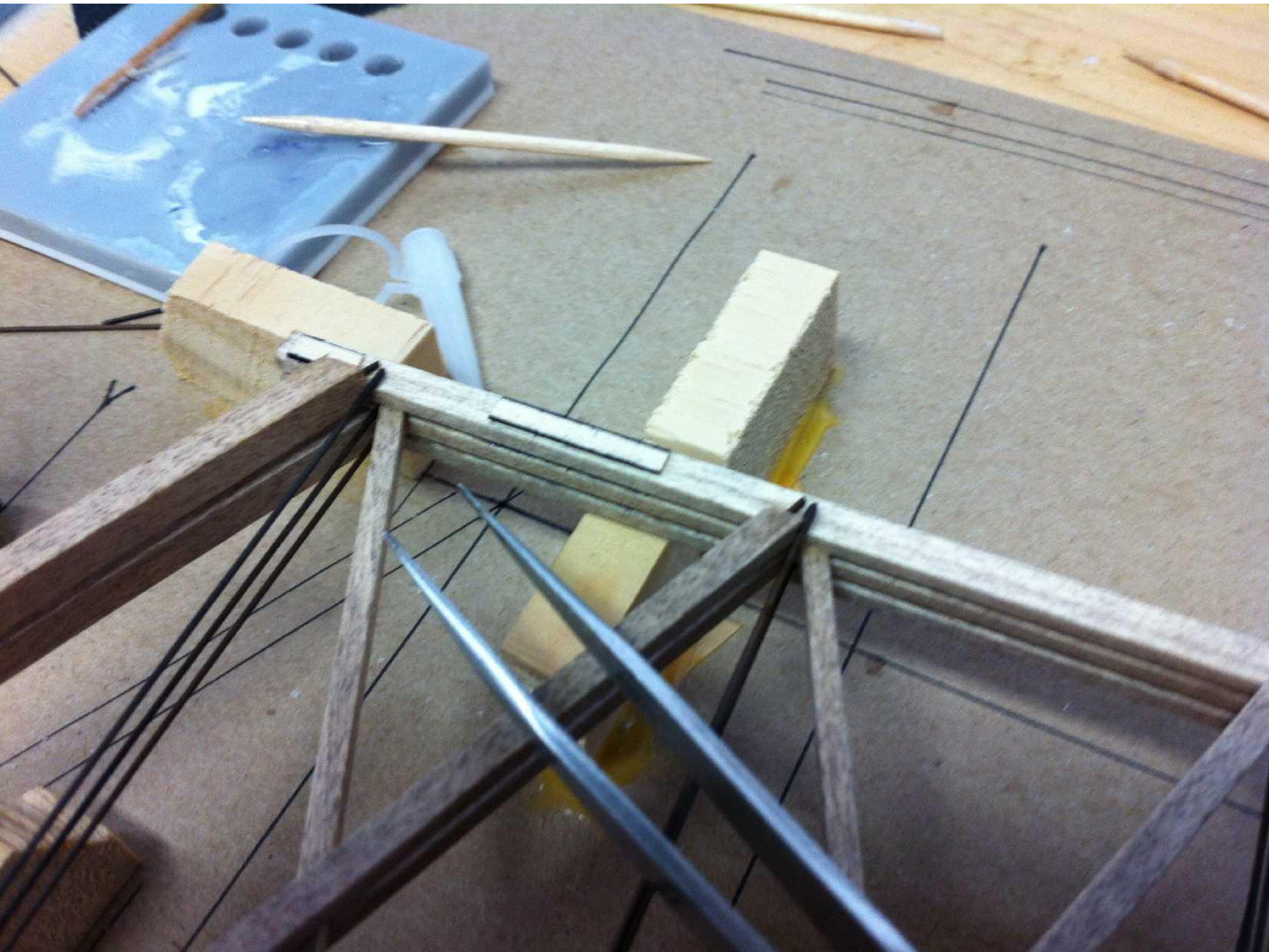


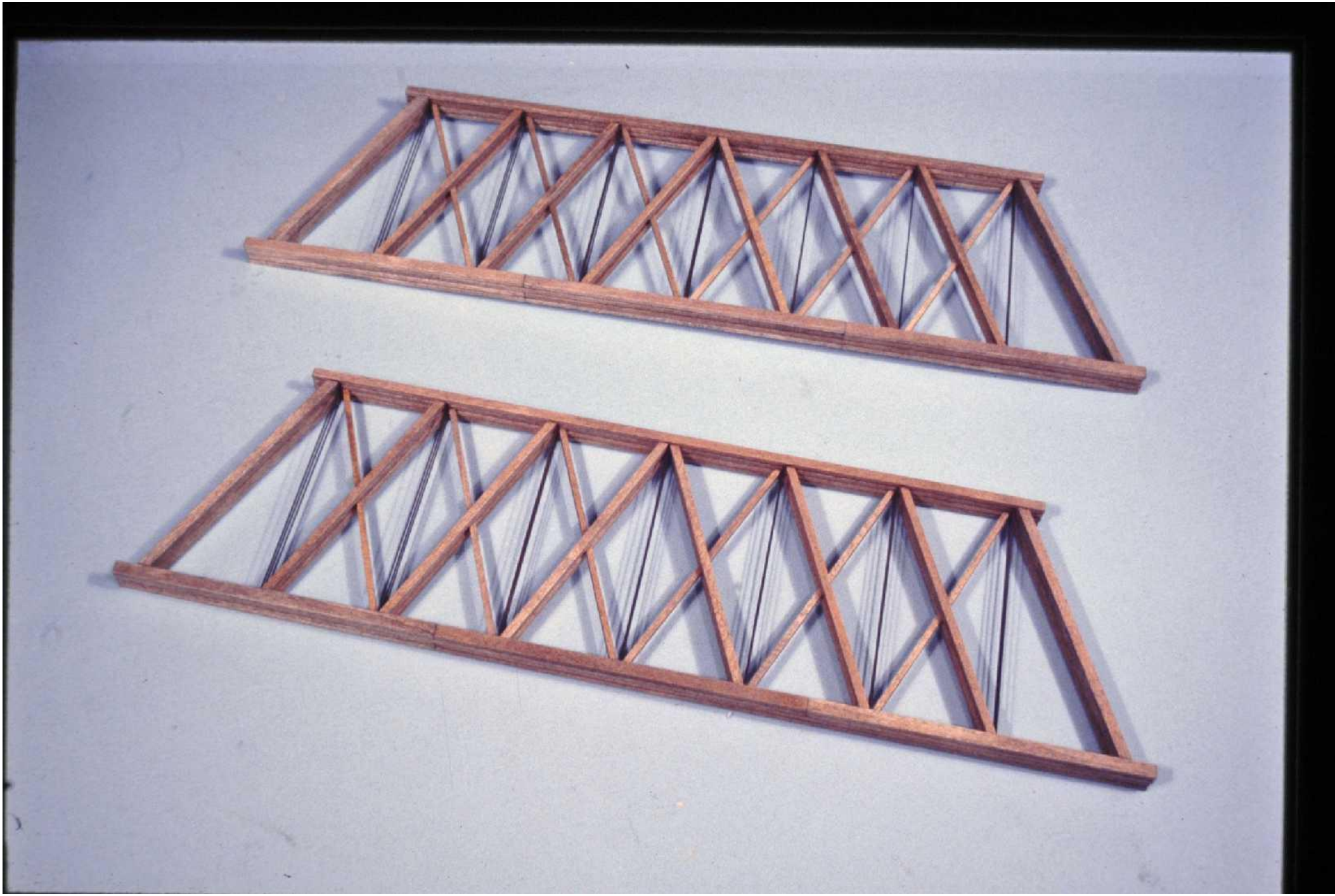
~24 deg.
30 CM
45

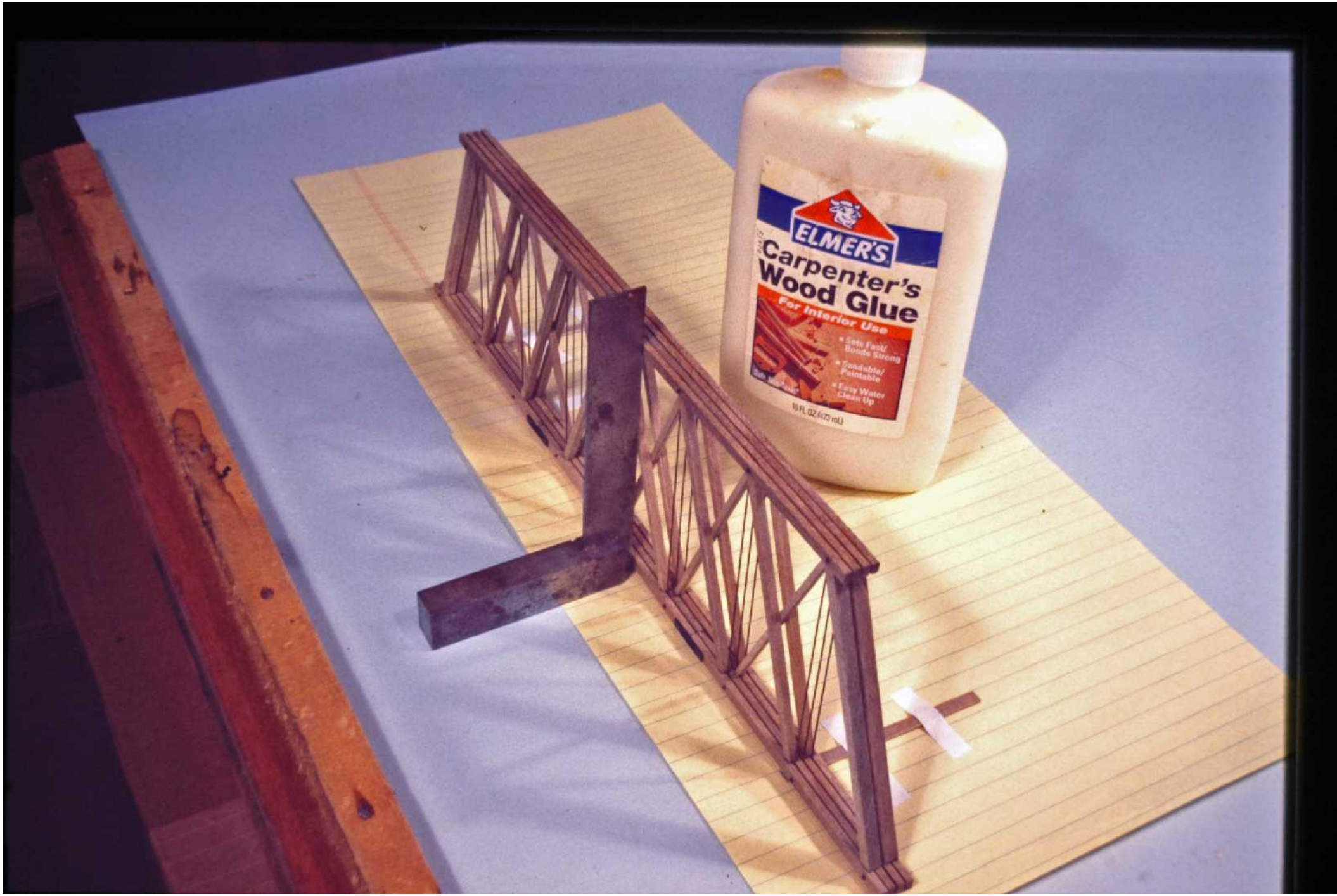
8.9185

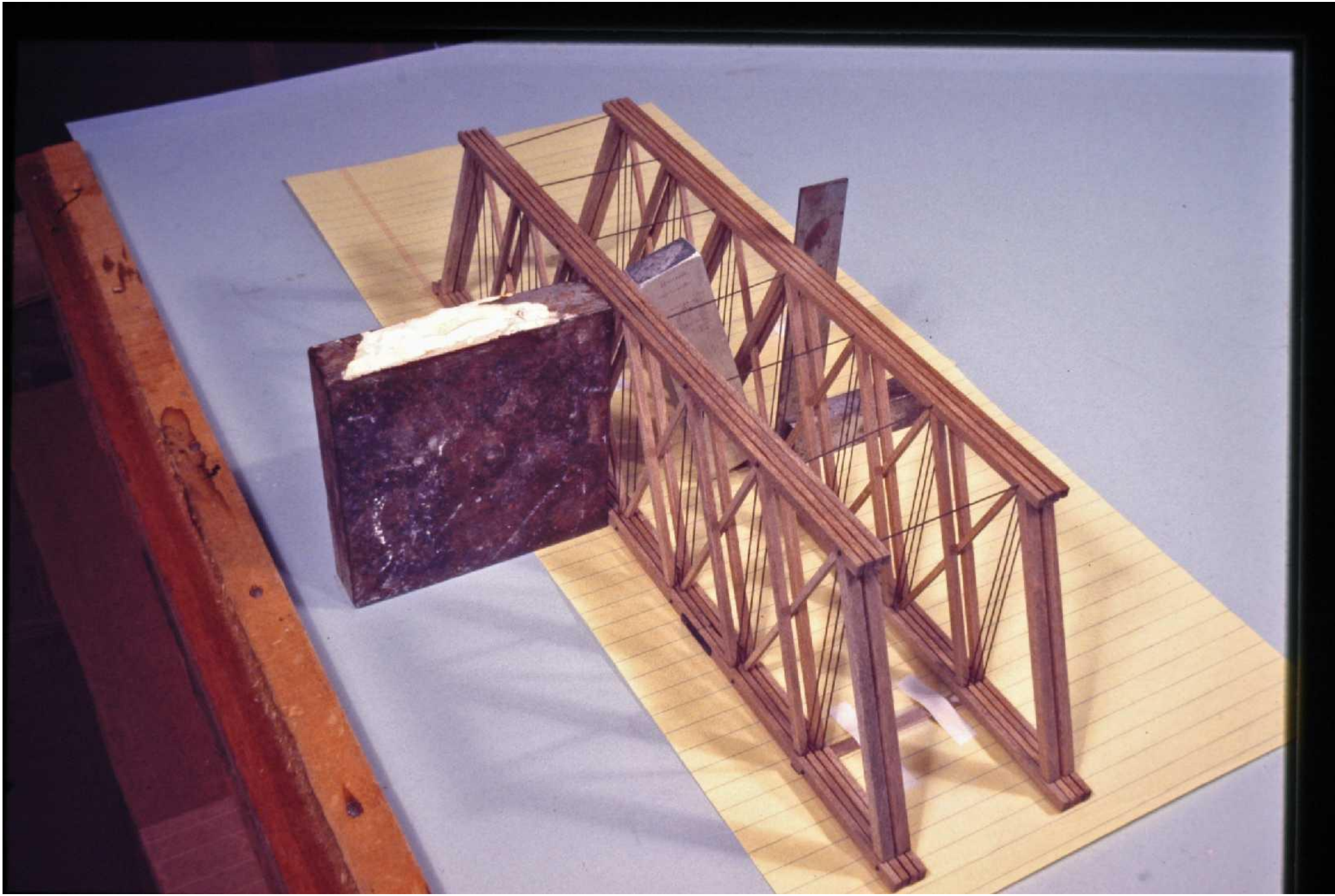
ZAP
ZAP-A-GAP
Medium CA+

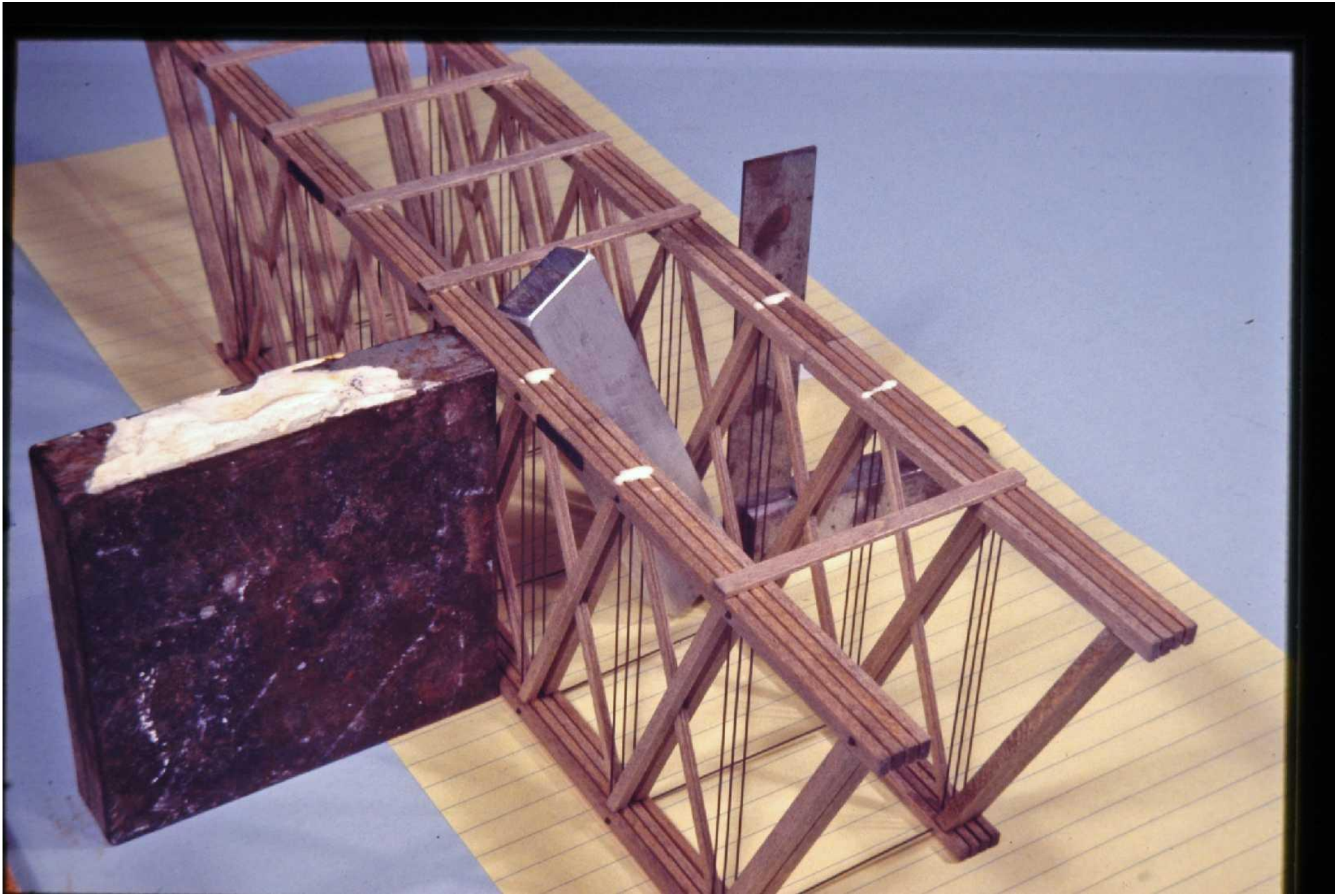







ELMER'S
Carpenter's
Wood Glue
For Interior Use
Sets Fast/
Bonds Strong
Sandable/
Paintable
Easy Water
Clean Up
16 FL OZ (473 mL)





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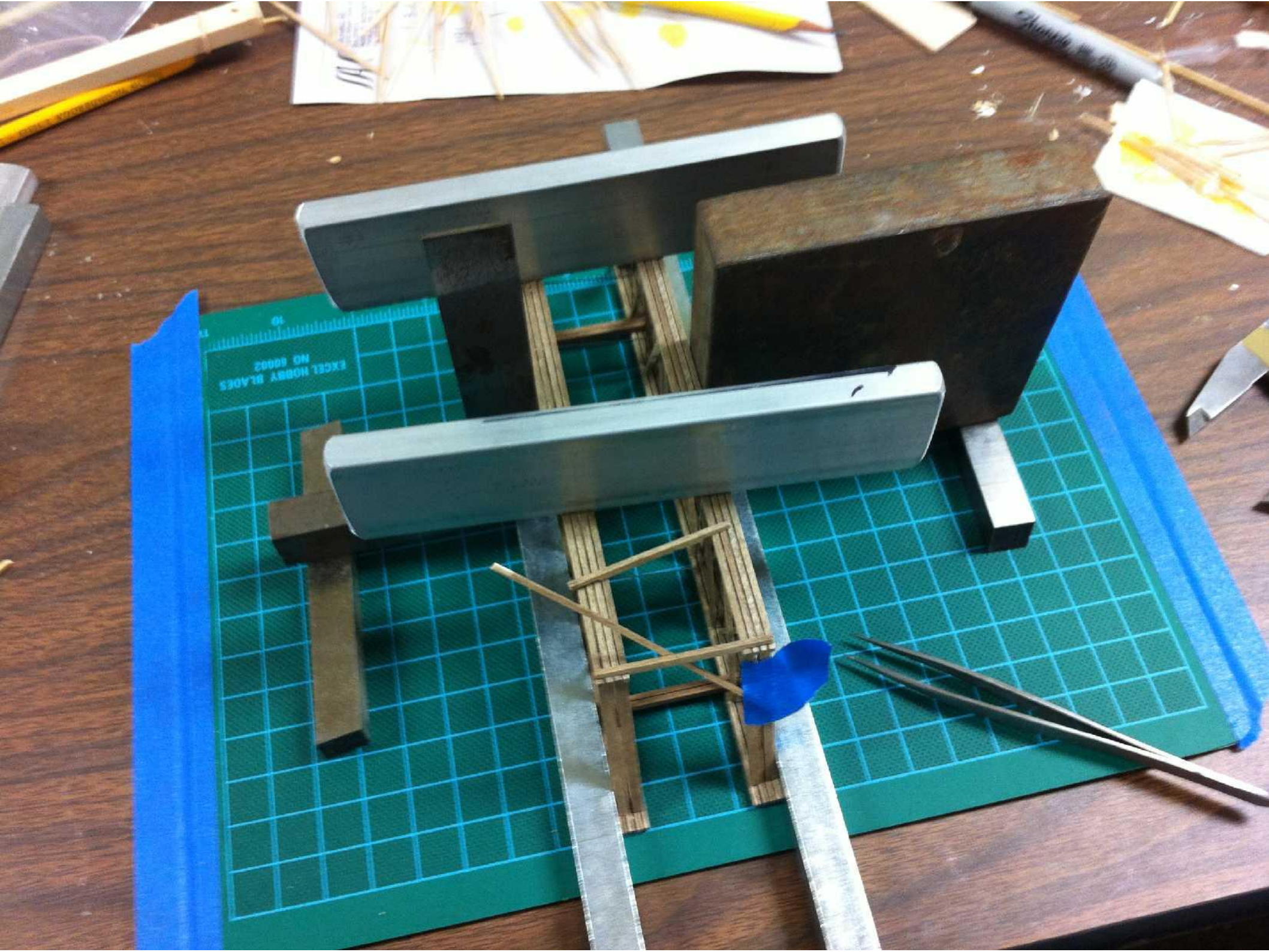
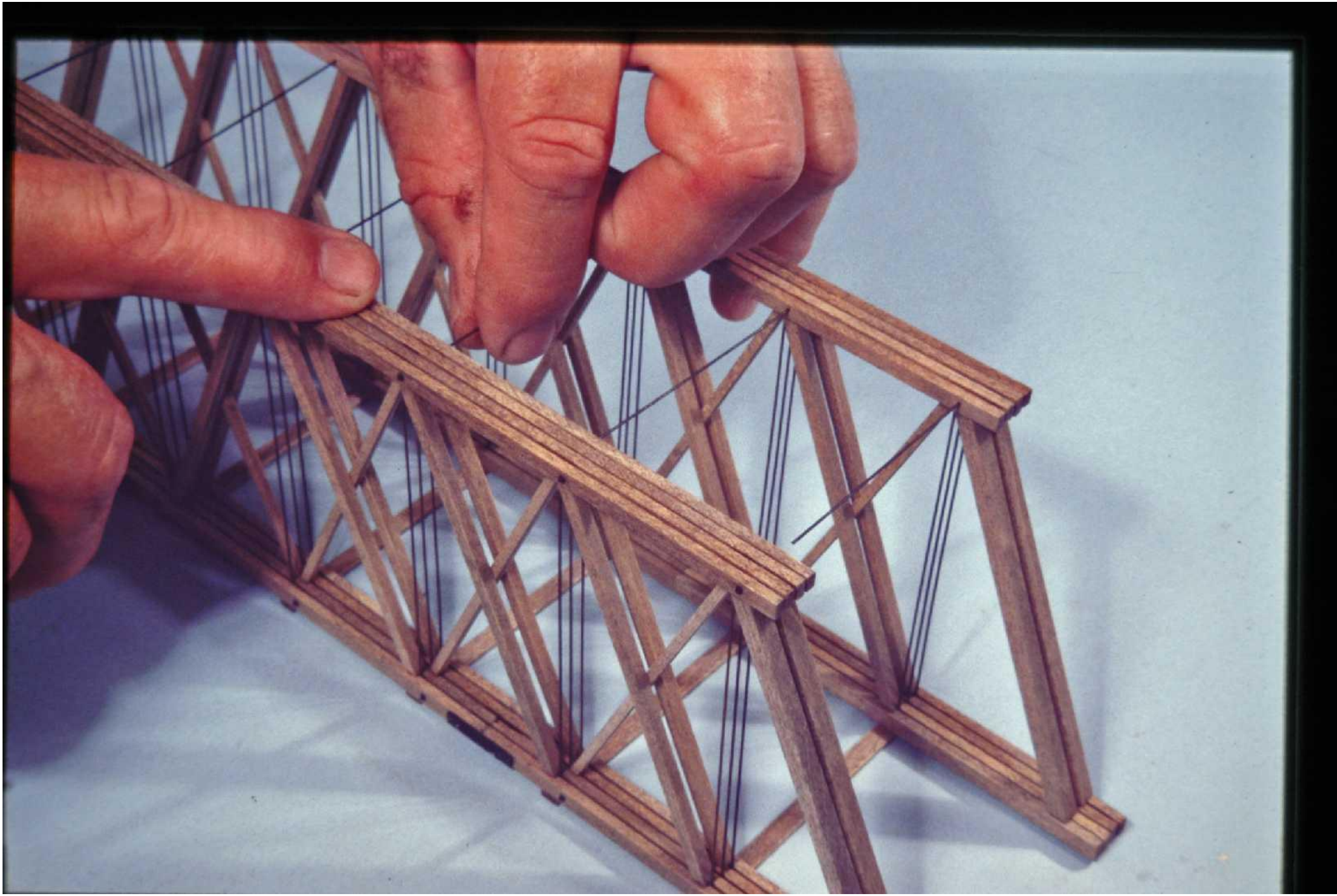
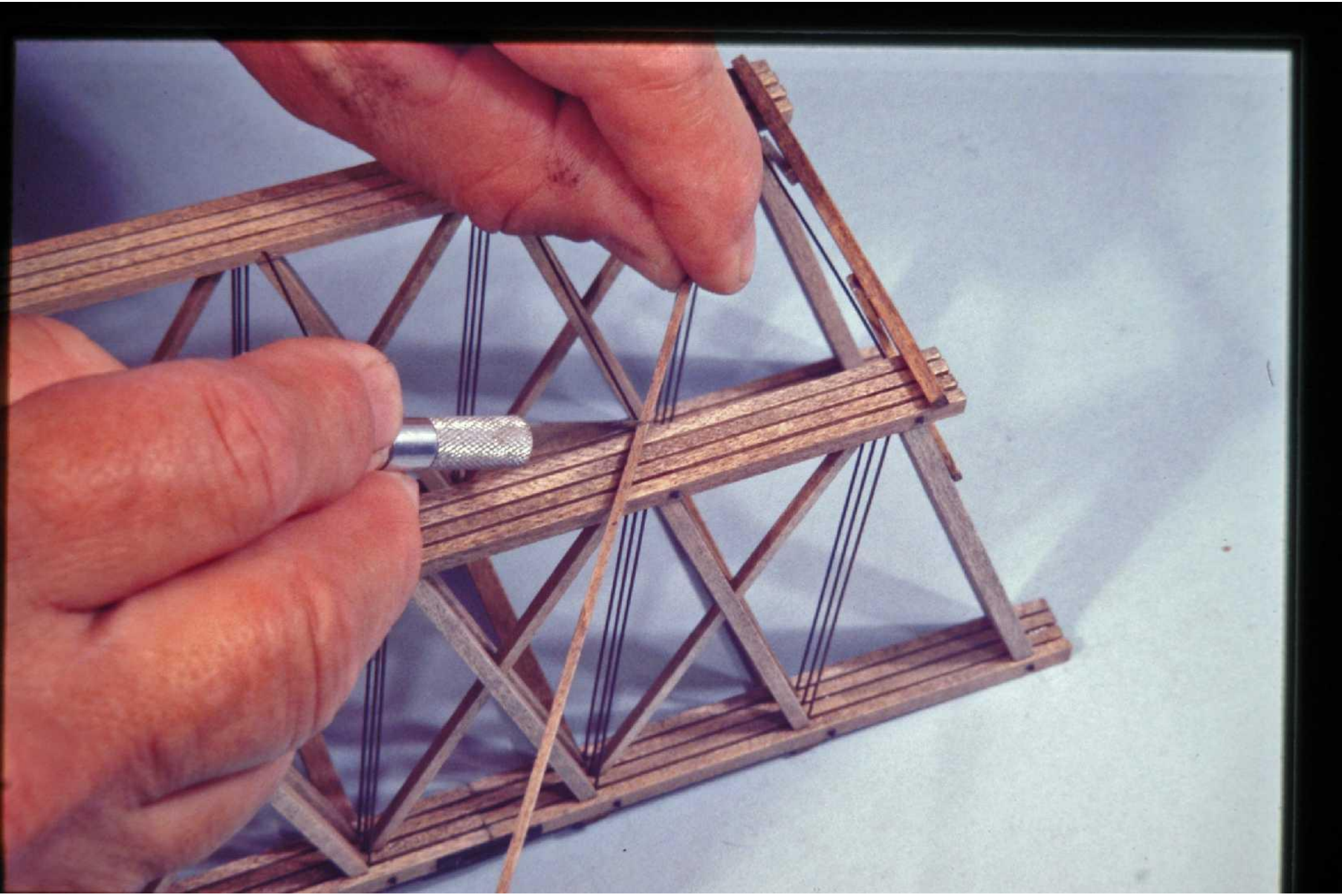
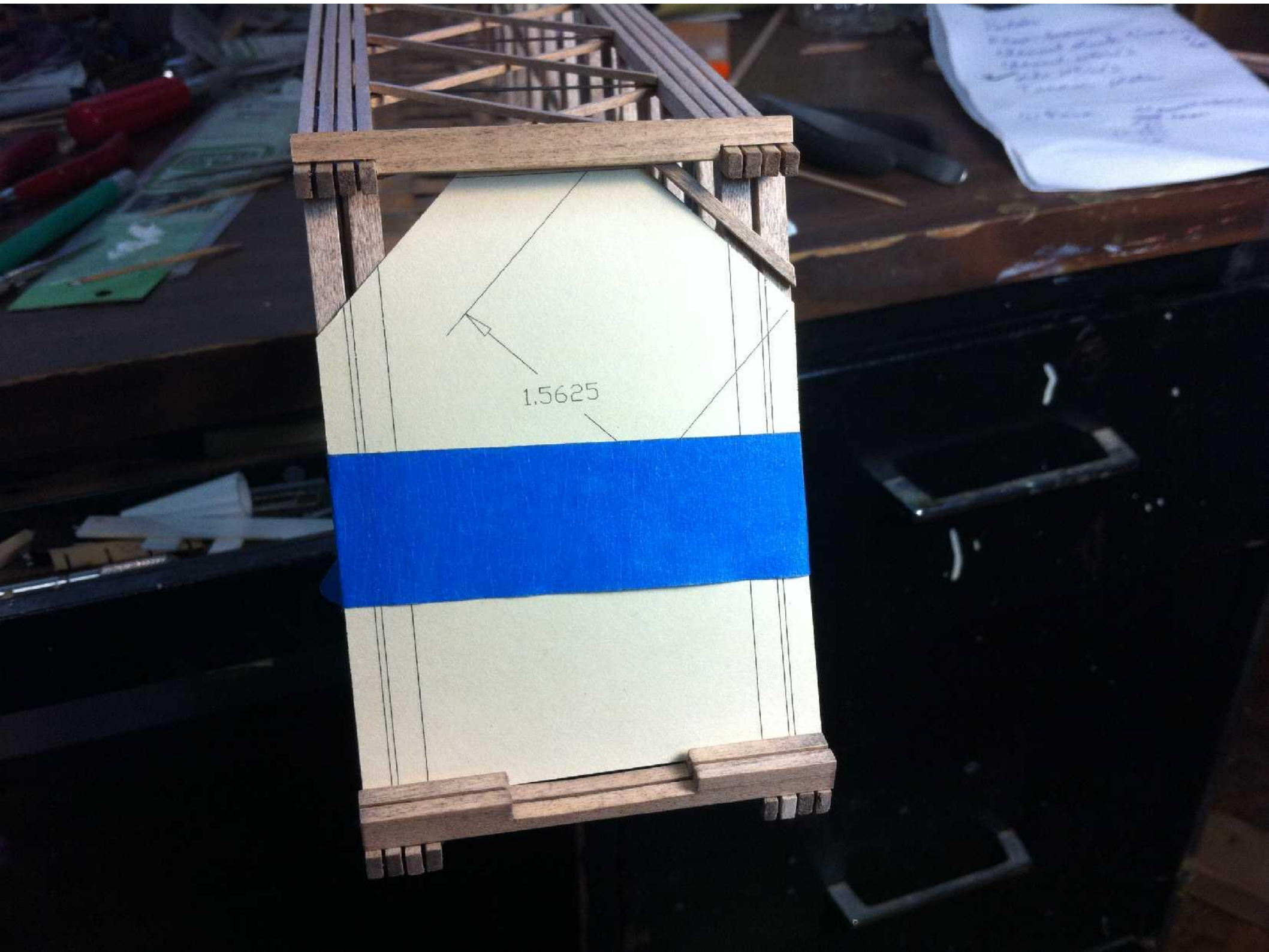
Sports
COLLEGE BASEBALL
Click, Search and Save!
rogerbeasley.com
USED


EXCEL HOBBY BLADES
NO 60002

1.1760



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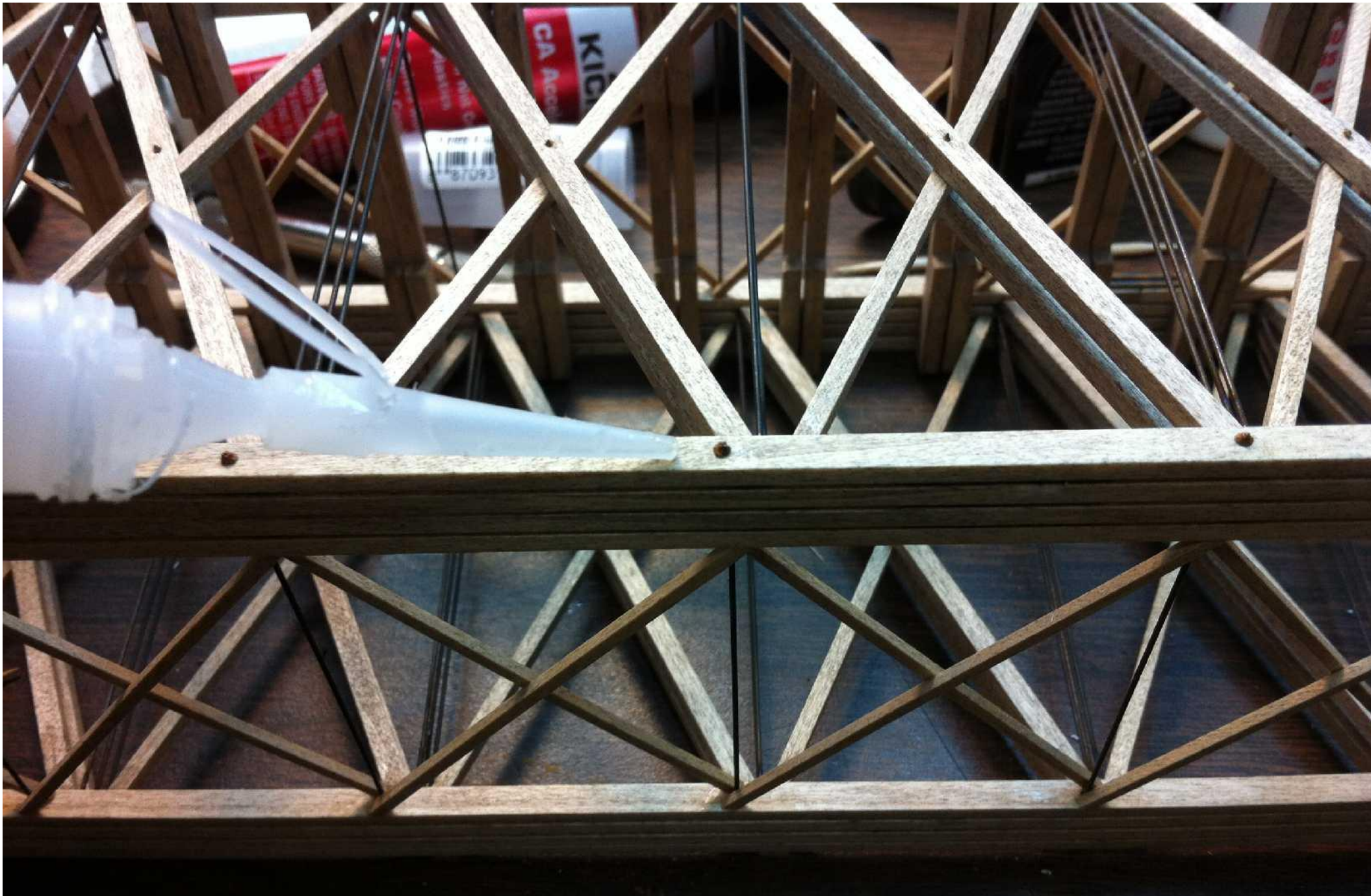

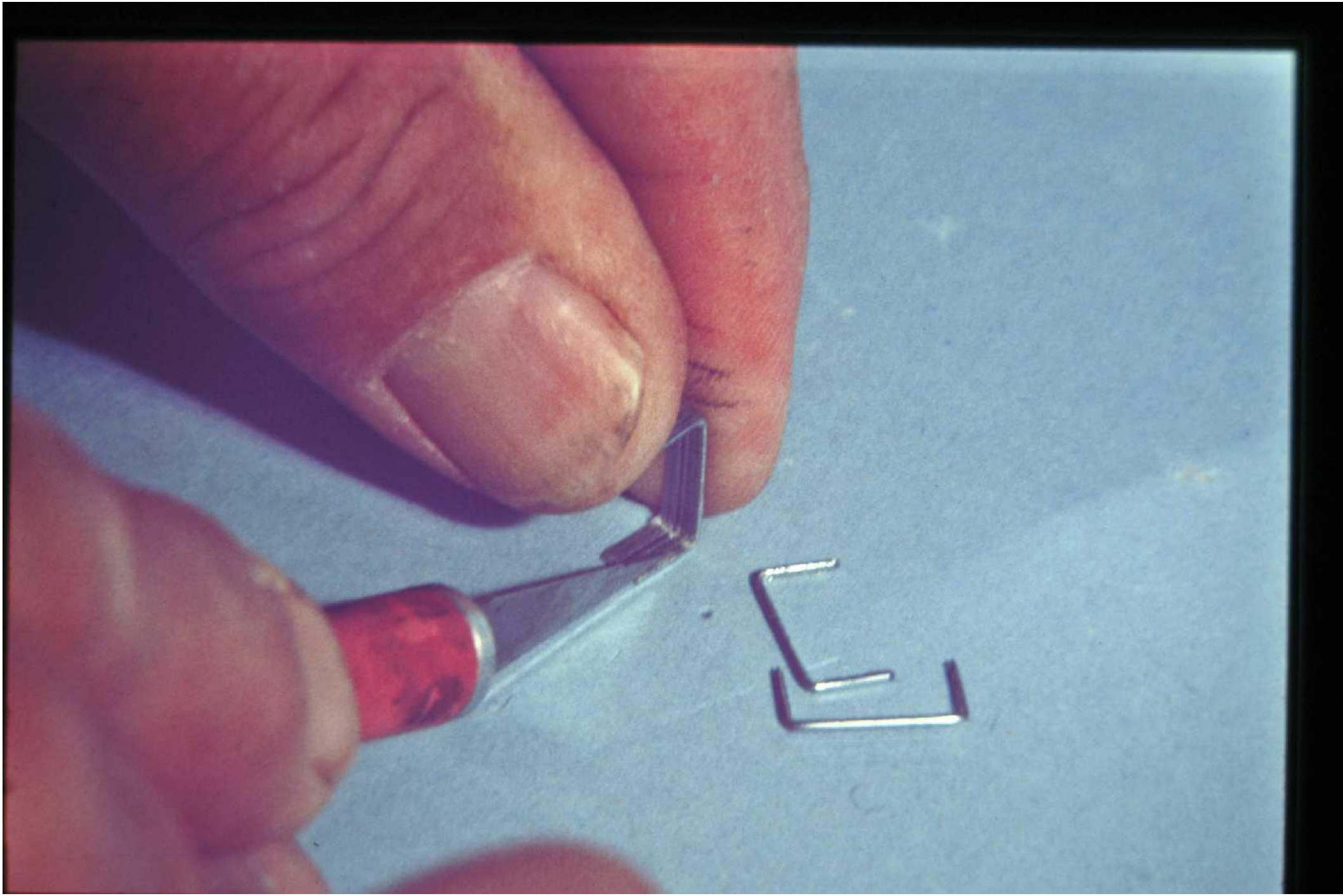

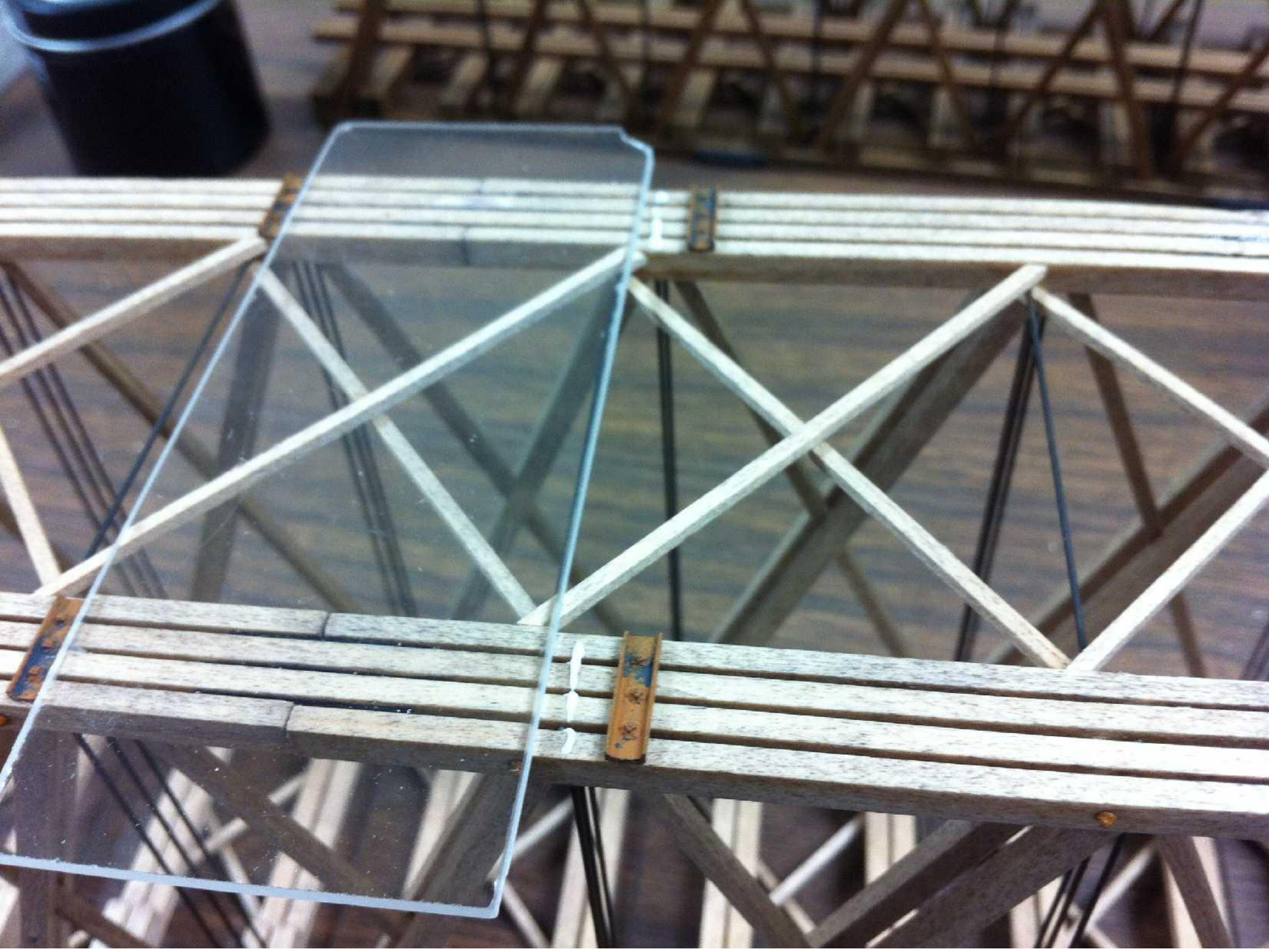

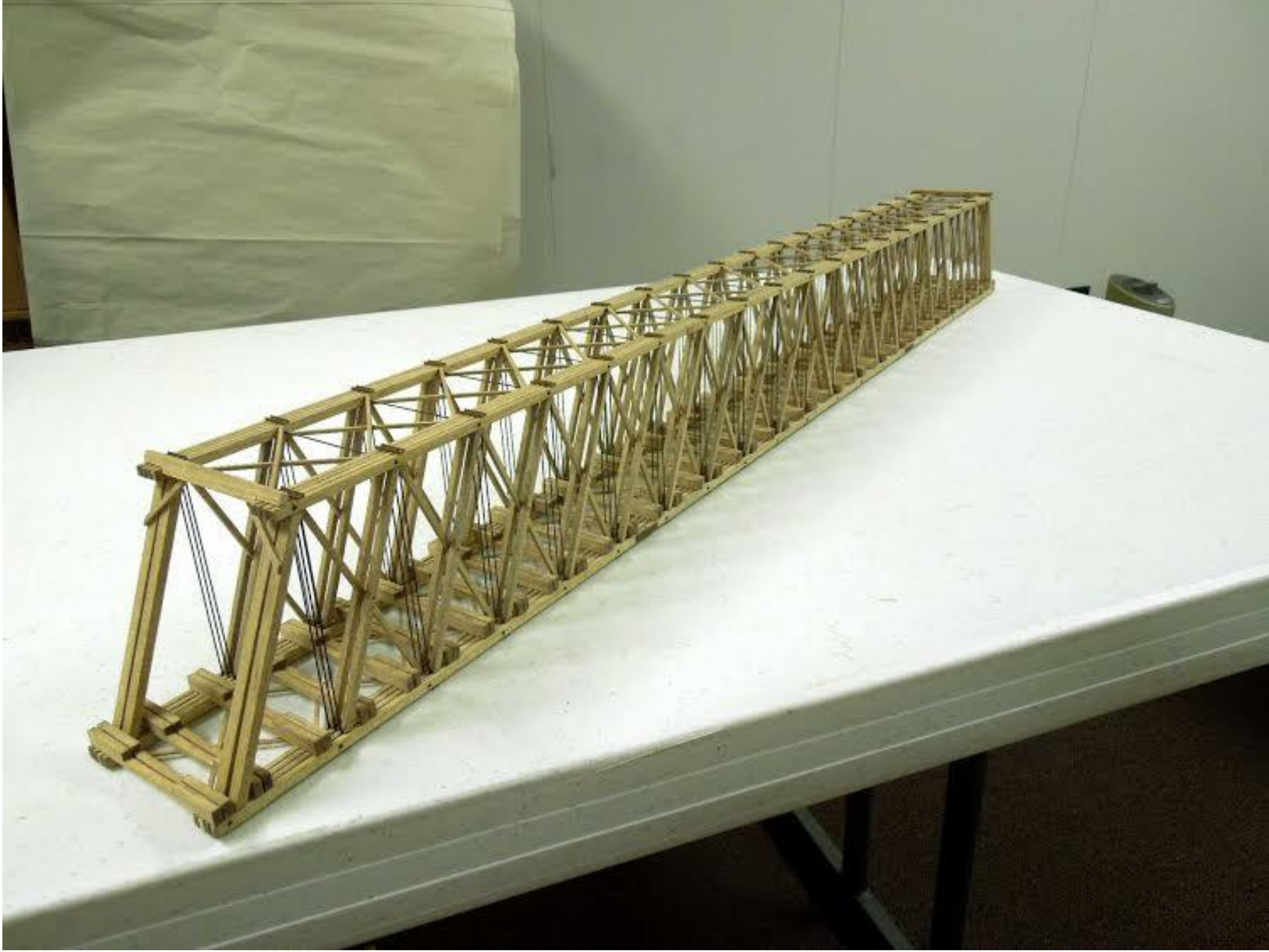

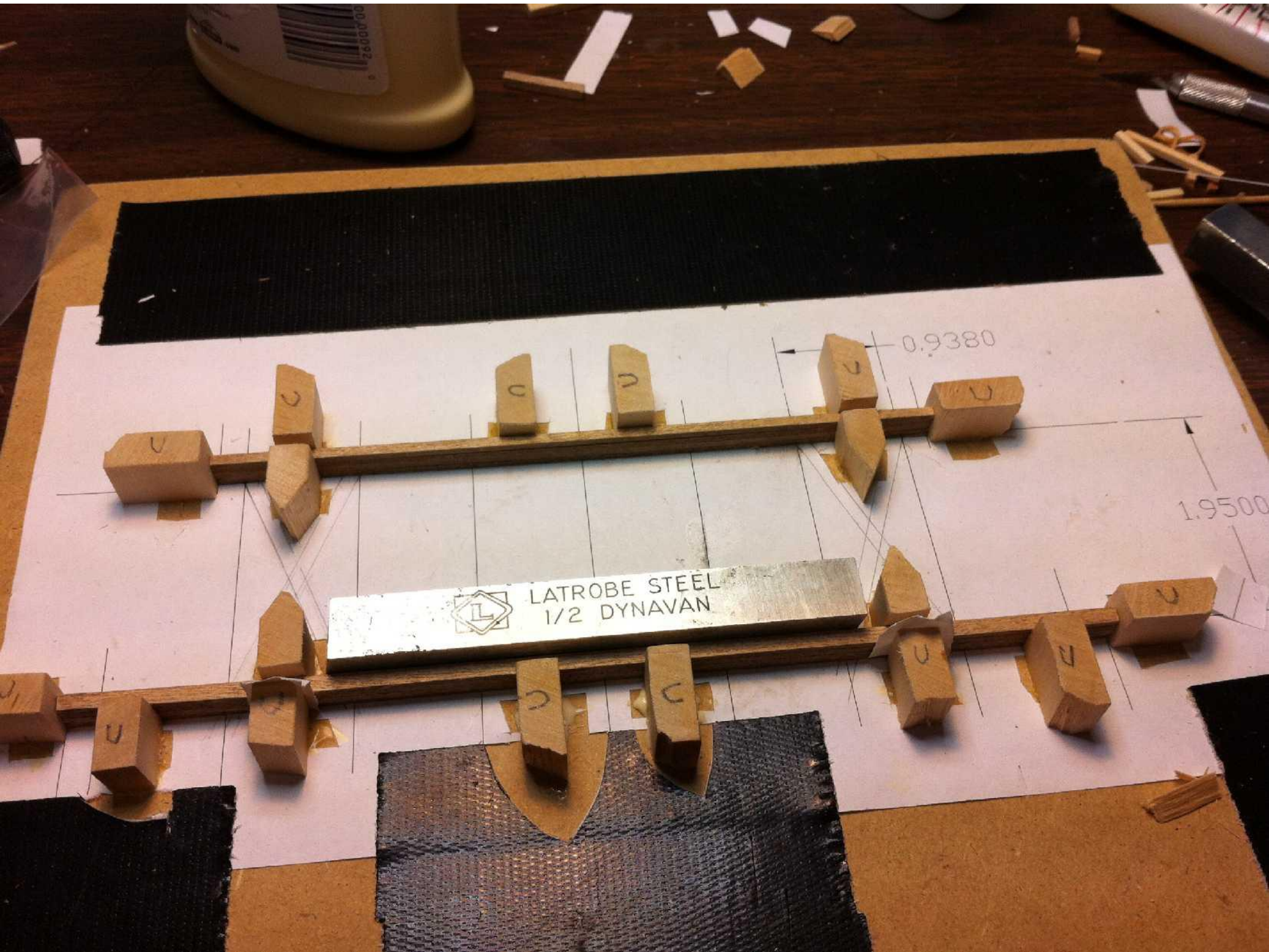
0.9380
1.9500
LATROBE STEEL
1/2 DYNAVAN

June 1, 2014